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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/235,531	01/22/1999	KARIN BIEBER	476	4591

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07/01/2003

STRIKER STRIKER & STENBY
103 EAST NECK ROAD
HUNTINGTON, NY 11743

EXAMINER

CADUGAN, ERICA E

ART UNIT	PAPER NUMBER
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3722

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DATE MAILED: 07/01/2003

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

09/235,531

Applicant(s)

BIEBER ET AL.

Examiner

Erica E Cadugan

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-- Th MAILING DATE of this communication appears on the cover sheet with the correspondence address --
Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 17 April 2003.
- 2a) ☒ This action is **FINAL**. 2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-18 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-18 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☒ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
- Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
- 11) ☒ The proposed drawing correction filed on 20 December 2001 is: a) ☒ approved b) ☐ disapproved by the Examiner
- If approved, corrected drawings are required in reply to this Office action.
- 12) ☐ The oath or declaration is objected to by the Examiner.

Priority under 35 U.S.C. §§ 119 and 120

- 13) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All b) ☐ Some * c) ☐ None of:
1. ☒ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. _____.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- * See the attached detailed Office action for a list of the certified copies not received.
- 14) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. § 119(e) (to a provisional application).
- a) ☐ The translation of the foreign language provisional application has been received.
- 15) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. §§ 120 and/or 121.

Attachment(s)

- 1) ☐ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☐ Information Disclosure Statement(s) (PTO-1449) Paper No(s) _____
- 4) ☐ Interview Summary (PTO-413) Paper No(s). _____
- 5) ☐ Notice of Informal Patent Application (PTO-152)
- 6) ☐ Other: _____

DETAILED ACTION

Faxing of Responses to Office Actions

1. In order to reduce pendency and avoid potential delays, TC 3700 is encouraging FAXing of responses to Office Actions directly into the Group at (703) 872-9302 or, for responses after final rejection only, to (703) 872-9303. This practice may be used for filing papers not requiring a fee. It may also be used for filing papers which require a fee by applicants who authorize charges to a PTO deposit account. Please identify the examiner and art unit at the top of your cover sheet. Papers submitted via FAX into TC 3700 will be promptly forwarded to the examiner.

Specification

2. The abstract of the disclosure does not commence on a separate sheet in accordance with 37 CFR 1.52(b)(4). A new abstract of the disclosure is required and must be presented on a separate sheet, apart from any other text. It is noted that Applicant indicated in the response filed 4/17/2003 that a new abstract was submitted therewith. However, no such abstract could be located.

Response to Amendment

3. The amendment filed December 20, 2001 is objected to under 35 U.S.C. 132 because it introduces new matter into the disclosure. 35 U.S.C. 132 states that no amendment shall introduce new matter into the disclosure of the invention. The added material which is not supported by the original disclosure is as follows: in the abstract, lines 2-3, Applicant added the following language: "a drive motor for rotatably and strikingly through a striking mechanism driving the drilling spindle". As previously described in the office action mailed September 20,

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2001, the specification as originally filed did not provide that the motor both rotated and “strikingly drove” the spindle. As set forth in the disclosure as originally filed, the only teaching provided about the specific percussion mechanism is found on page 9, lines 3-8. Therefore, the specification as originally filed did not provide a teaching that the motor 11 that rotatably drives the spindle 13 (see page 8, lines 2-12) also “strikingly” drives the spindle 13. Note that the specification does provide that an “impact mechanism 28” is used “for delivering axial impacts against the drilling spindle 13” (page 9, lines 4-6), and thus the specification as originally filed would support a description of a motor that rotatably drives the spindle and an “impact mechanism” that strikingly drives the spindle.

Applicant is required to cancel the new matter in the reply to this Office Action.

Claim Rejections - 35 USC § 112

4. The text of those sections of Title 35, U.S. Code not included in this action can be found in a prior Office action.

5. Claim 16 is rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

In claim 16, it is unclear in the limitation “an intermediate shaft non-rotatably connected with said drilling spindle” what is meant by “non-rotatably”, as the specification seems to indicate that the intermediate shaft 17 rotatably supports a gear 16 thereon (Figure 2 and page 8, lines 8-10), and that the intermediate shaft 17 also has teeth 18, 19 thereon for engagement with gears 20, 21 on the shaft of drilling spindle 13 (page 8, lines 10-12). In order for the shaft of motor 11 to ultimately drive the spindle 13, it appears that shaft 17 must rotatably connect to

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spindle 13 via the teeth 18, 19, and the gears 20, 21. Note that the specification does teach that when switching between transmission stages, the gears 20 and 21 are non-rotatably connected with spindle 13, but that these claims set forth that the tool receives a torque from the drive motor which can't occur if the intermediate shaft 17 and spindle 13 are non-rotatably connected as claimed. While applicant may be his or her own lexicographer, a term in a claim may not be given a meaning repugnant to the usual meaning of that term. See *In re Hill*, 161 F.2d 367, 73 USPQ 482 (CCPA 1947). Note that in the response submitted 12/20/2001, Applicant changed a different instance of the word "non-rotatably" to "rotatably" than the one described in this paragraph. Examiner suggests changing the instances of "non-rotatably" that Applicant changed in claims 1 and 8 in the response submitted 12/20/2001 to "rotatably" back to "non-rotatably" and changing the instances indicated in this paragraph to --rotatably--, and also changing the indicated instance in claim 16 to --rotatably-- for clarity.

Claim Rejections - 35 USC § 103

6. Claims 1-5, 7-12, and 14-18, claim 16 is as best understood, are rejected under 35 U.S.C. 103(a) as being unpatentable over U.S. Patent No. 3,433,082 (Bitter et al.) in view of U.S. Patent No. 5,788,021 (Tsai).

Bitter et al. teaches a hammer-drill (see title of invention) which has a motor housing 13 and a gear case 15 (column 3, lines 32-35 and Figures 1-2). The motor housing houses a motor (column 3, lines 35-36) which ultimately drives a tool chuck 19 threadedly connected to a forward end of spindle shaft 43 (Figure 2 and column 4, lines 12-15). Thus, the spindle shaft 43 inherently receives a moment during exchanging of the tool chuck. A "stage" of gears 35, 37, 39, 41 is provided between the motor shaft 25 (which constitutes an "intermediate shaft", see

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Figure 2 and column 3, lines 51-67) and the spindle shaft 43. Specifically regarding claims 4 and 11, while Bitter et al. does not specifically describe the transmission ratio, note that the input gears 35, 37, 39 are smaller in diameter (Figure 2) than the output gear 41, and thus the output speed is slower than the input speed. Note that the motor or “intermediate” shaft 25 is radially offset from the spindle shaft 43 (Figure 2). Any number of elements taught by Bitter et al. could constitute a “component connected to said machine housing”. For example, as viewed in Figure 2, screws 17 are connected to the housing.

Bitter et al. does not teach an arresting device.

Tsai teaches an automatic output shaft locking mechanism for an electric tool such as a drill or a striking tool (column 1, lines 7-23). Tsai’s device utilizes a retaining ring 50, which constitutes a “disc”. The “disc” 50 has a plurality of radial projections 502 (Figure 2), which project outwardly from center hole 501 (see Figure 1). The center hole 501 constitutes a bearing seat which couples disc 50 to shaft 60. Tsai also teaches the use of a “claw coupling” 20 which has a plurality of axially extending claws 203 (see Figure 1). Tsai teaches that a motor output shaft is divided into an inner shaft 10 and an outer shaft 60 (column 2, lines 35-38 and Figure 1). When a torque is applied to the inner or **motor** shaft 10 (e.g., via the motor), the outer or output or **intermediate** shaft 60 rotates (column 3, lines 28-35, and Figures 3 and 4). When a torque is applied to the output shaft 60 (e.g., manually), the disc 50 is locked in position (column 3, lines 35-60 and Figures 5 and 6) such that a chuck or a drill bit can be speedily and conveniently replaced (column 3, lines 60-64). Note that Tsai specifically teaches that the motor in such electric tools “drives a rotary shaft to drive directly or via a **speed change mechanism** a driven component at the front end of the drill for drilling purposes” (col. 1, lines 26-55, for example,

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and specifically lines 28-30). In other words, Tsai teaches that the device is used with motors that indirectly, such as “via a speed change mechanism”, drive a tool.

Therefore, it would have been obvious to one having ordinary skill in the art at the time the invention was made to have added the automatic output shaft locking mechanism taught by Tsai to the drill taught by Bitter et al. via a substitution of the motor output shaft (including portions 10 and 60) and automatic locking mechanism taught by Tsai for the motor output shaft 25 taught by Bitter et al., such that Tsai’s motor output shaft that is “divided” into an inner 10 (**motor**) and outer (**intermediate**) shaft 60 separated by the arresting mechanism including disc 50 and “claw coupling” 20 (see Figure 1 of Tsai) replaces the shaft portion of the motor shaft 25 taught by Bitter et al., noting that in such a configuration, the inner shaft 10 taught by Tsai would be connected to the motor and the outer shaft 60 taught by Tsai would to the left side of the replaced shaft as viewed in Figure 2 of Bitter et al., (thus positioning the locking mechanism at an “end side” of a toothed gear 35 of the stage taught by Bitter et al.), for the purpose of allowing drill bits to be speedily and conveniently removed or replaced (Tsai, column 3, lines 60-64, for example).

7. Claims 6 and 13 are rejected under 35 U.S.C. 103(a) as being unpatentable over U.S. Patent No. 3,433,082 (Bitter et al.) in view of U.S. Patent No. 5,788,021 (Tsai) as applied to claims 1, 2, 5, 8, 9, and 12 above, and further in view of U.S. Patent No. 3,030,818 (Zagar).

Bitter et al. in view of Tsai teaches all aspects of the invention as claimed in claims 6 and 13 as set forth in the above 103 rejection based thereon, but does not teach that the shaft 25 has a non-cylindrical cross section.

Zagar teaches the use of a gear 21, which is a driven disc. The gear 21 is mounted on a polygonal portion of a shaft 27 (Figures 1 and 3). The polygonally-mounted portion acts as a key coupling (column 1, lines 18-21).

Therefore, it would have been obvious to one having ordinary skill in the art at the time the invention was made to utilize a polygonal shaft as taught by Zagar for the motor shaft taught by Bitter et al. in view of Tsai such that the portion of the shaft that held the disc was polygonally-shaped for the purpose of providing a built-in key between the disc and the shaft, thus preventing slippage between the disc and the shaft.

Response to Arguments

8. Applicant's arguments filed April 17, 2003 have been fully considered but they are not persuasive. Many of Applicant's arguments are moot in view of the new ground(s) of rejection, and accordingly, applicant's attention is directed to the above rejections. However, Examiner will address those arguments which still pertain.

9. Applicant has asserted that the "arresting device disclosed in the patent to Tsai does not have any toothed gear designed as in the applicant's invention and provided for torque transmission". However, this is not persuasive. It is noted that as described in both the previous rejection based on Bitter (U.S. 3,433,082) and Tsai (U.S. 5,788,021), modifying the references as described in the reference leads to a positioning of the locking mechanism "at an 'end side' of a toothed gear 35 of the stage taught by Bitter et al." Note that gear 35 is used for "torque transmission" (see Figure 1 of the Bitter et al. reference, for example).

Conclusion

10. Applicant's amendment necessitated the new ground(s) of rejection presented in this Office action. Accordingly, **THIS ACTION IS MADE FINAL**. See MPEP § 706.07(a). Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire **THREE MONTHS** from the mailing date of this action. In the event a first reply is filed within **TWO MONTHS** of the mailing date of this final action and the advisory action is not mailed until after the end of the **THREE-MONTH** shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than **SIX MONTHS** from the date of this final action.

11. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Erica E Cadugan whose telephone number is (703) 308-6395. The examiner can normally be reached on M-F, 7:30 a.m. to 5:00 p.m., alternate Fridays off.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Andrea L. Wellington can be reached on (703) 308-2159. The fax phone numbers for the organization where this application or proceeding is assigned are (703) 872-9302 for regular communications and (703) 872-9303 for After Final communications.

Any inquiry of a general nature or relating to the status of this application or proceeding

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should be directed to the receptionist whose telephone number is (703) 308-1148.


eec

June 25, 2003


A. L. WELLINGTON
SUPERVISORY PATENT EXAMINER
TECHNOLOGY CENTER 3700